

CLAIMS

WHAT IS CLAIMED IS:

1. A high contact angle char forming adherent comprising of:

- i. a pseudo-nano particulate magnesium Alumino silicate;
- ii. water in sufficient amounts to disperse said adherent to form a colloidal suspension of 5% to 19% by weight in water;
- iii. a flocculating agent selected from water soluble salts containing: Na, Cl, K, Mg, Sr, Ca, Li, Br or SO₄ but optimally Epsom salt (magnesium sulfate) and when mixed with water soluble salts, will produce a eductable and sprayable composition from which a thickened char forming suspension is formed and will optionally include;
- iv. an additive selected from the group consisting of carbonates, borates or phyllosilicates such as micas or vermiculite.

2. A step-by-step process for making Acti-Quench by:

- i. shear mixing between 5-19 percent formula weight of Acti-Quench with water to create a dispersion;
- ii. mixing between 0.25-50 percent formula weight of a flocculant to the dispersion;
- iii. mixing an ameliorative fire suppression and quenching additives to the dispersion;

- iv. retaining the dispersion in a pumpable spray container and;
- v. discharging the dispersion from the container in a shear thinning spray action, whereby a sprayable high contact adherent temporary protective coating is formed.

5 3. A composition useful for providing a fire protective coating on surfaces by immobilizing water therein and producing evaporative cooling comprising about 5-15% Attapulgitic clay, about 1-10% magnesium sulfate with water to make 100%.

 4. The composition of claim 3 wherein the composition comprises about 13.5-15% Attapulgitic clay, about 1% magnesium sulfate and the balance water to make 100%.

10 5. The composition of claim 3 wherein the Attapulgitic clay is purified Attapulgitic clay.

 6. A method for preventing the advance of a fire and creating a fire-barrier comprising applying to the area to be protected from the advancing fire a fire-barrier composition comprising fire-barrier effective amounts of a composition of Attapulgitic clay, Epsom salt and water.

15 7. The method of claim 6 wherein the fire-barrier composition comprises on a total weight basis 5-15% purified Attapulgitic clay, 1-15% Epsom salt and water to make 100%.

 8. The method of claim 6 wherein the fire-barrier composition on a total weight basis comprises about 13.5 to 15% of Attapulgitic clay, about 1% Epsom salt and about 85% of water.

 9. The method of claim 6 wherein the composition applied to the area to be protected is a quarter of an inch or greater.

20 10. The method of claim 6 wherein the area to be protected is around a land-fill.

 11. The method of claim 6 wherein the area to be protected is the area around burning tires.

12. A method for preventing the advance of a fire and creating a fire-barrier comprising applying to the surface to be protected an aqueous slurry of a clay selected from the group consisting of Attapulgite, Palygorskite or Sepiolite.

13. A method for fighting a fire comprising applying to said fire a composition of
5 Attapulgite clay, Epsom salt and water in amounts effective to fight said fire.